



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/776,497

02/10/2004

Blaine R. Bateman

9062A-000091/US

3233

28997 7590 04/29/2009
HARNESS, DICKEY, & PIERCE, P.L.C
7700 Bonhomme, Suite 400
ST. LOUIS, MO 63105

EXAMINER

KARACSONY, ROBERT

ART UNIT

PAPER NUMBER

2821

MAIL DATE

DELIVERY MODE

04/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/776,497
Filing Date: February 10, 2004
Appellant(s): BATEMAN, BLAINE R.

Shane M. Niebergall, Reg. No. 44,974
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 01, 2008 appealing from the Office action mailed September 17, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

7,119,744	Theobold et al.	10-2006
2004/0169612	Song et al.	9-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

The amendments to the claims received October 29, 2007 overcome the rejection of claims 1-20 under 35 USC § 112, first paragraph. Therefore, the rejection of claims 1-20 under 35 USC § 112, first paragraph, are hereby withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-15 and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by

Theobold et al. (US 7,119,744, hereinafter *Theobold*).

Claim 1: *Theobold* teaches an enhanced wireless access point comprising:

an access point (30);

at least one omni directional antenna (12,14) coupled to the access point; and

at least one ground plane (20, col. 3/lines 28-32 discloses passive antenna structure being reflective) mounted on at least one substrate (col. 4/lines 51-53 discloses passive antenna

Art Unit: 2821

structure 20 disposed on a hinge) releasably coupled to the access point (col. 4/lines 48-50) and radio frequency coupled to at least one of the at least one omni directional antenna (the electromagnetic waves produced by the antenna of the access point will inherently be reflected off of the passive antenna structure), such that when the at least one ground plane is coupled to the access point the at least one omni directional antenna functions as a directional antenna to shape a coverage area of the access point and such that when the at least one ground plane is not coupled to the access point the at least one omni directional antenna provides an omni directional coverage area (the preceding limitation is inherent within the system of *Theobald*).

Claim 2: *Theobald* teaches the at least one omni directional antenna comprises at least one of a dipole (col. 3/lines 60-61).

Claim 3: *Theobald* teaches the at least one omni directional antenna comprises a plurality of omni directional antennas (fig. 1A).

Claim 4: *Theobald* teaches the plurality of omni directional antennas are arranged to provide diversity (col. 4/lines 42-44).

Claim 5: *Theobald* teaches the at least one ground plane comprises a plurality of ground planes (col. 4/lines 42-44).

Claim 6: *Theobald* teaches the at least one omni directional antenna comprises a first number (fig. 1A shows 4 antennas) of omni directional antennas and the at least one ground plane comprises a second number (fig. 1A shows 1 passive antenna structure) of ground planes where the first number of omni directional antenna is larger than the second number of ground planes (4 is greater than 1).

Claim 7 is similar in scope as claim 4 and is therefore rejected for substantially the same reasons.

Claim 8: *Theobold* teaches the at least one ground plane comprises one ground plane associated with one of the two omni directional antennas (col. 4/lines 42-44).

Claim 9: *Theobold* teaches the at least one ground plane comprises two ground planes, each ground plane associated with a respective one of the omni directional antennas (col. 4/lines 42-44).

Claim 10: *Theobold* teaches the substrate is a bracket (col. 4/lines 51-53).

Claim 11: *Theobold* teaches the access point comprises a back plane (area of access point '30' that passive antenna structure '20' is disposed on) and the at least one ground plane is mounted on the back plane (fig. 1A).

Claim 12: *Theobold* teaches the at least one ground plane is placed to steer a radiation pattern associated with the at least one omni directional antenna (the passive antenna structure '20' inherently steers the electromagnetic waves produces by the antennas).

Claim 13 is similar in scope as claim 1 and is therefore rejected for substantially the same reasons.

Claim 14: *Theobold* teaches the means for providing an omni directional radio frequency pattern is at least one omni directional antenna (12,14).

Claim 15: *Theobold* teaches the means releasably coupled to the access point for converting the omni directional radio frequency pattern to a directional radio frequency pattern is at least one ground plane (col. 3/lines 28-32).

Claim 17: *Theobold* teaches a wireless gateway, comprising:
an access point (30);

the access point adapted to connect to a network (access point inherently connect to networks);

a bracket (hinge, col. 4/lines 51-53);

the bracket releasably coupled to the access point (col. 4/lines 48-50); and

the access point further comprises:

a first omni directional antenna (12); and

a second omni directional antenna (14);

the bracket further comprises:

a first ground plane (20, col. 3/lines 28-32 discloses passive antenna structure being reflective);

such that when the bracket is coupled to the access point, the first ground plane causes the first omni directional antenna to exhibits a first directional antenna radiation pattern and when the bracket is released from the access point, the first omni directional antenna exhibits a first omni directional antenna radiation pattern (the preceding limitation is inherent within the system of *Theobold*).

Claim 18: *Theobold* teaches the first ground plane causes the second omni directional antenna to exhibit a directional antenna radiation pattern (the passive antenna structure '30' inherently causes all the antenna elements to be directional).

Claim 19: *Theobold* teaches the bracket comprises a second ground plane and the second ground plane (fig. 3A) causes the second omni directional antenna to exhibit a section directional antenna radiation pattern (the passive antenna structure '30' inherently causes all the antenna elements to be directional).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Theobald in view of Song et al. (US 2004/0169612, hereinafter Song).

Claim 16: Theobald teaches all of the limitations of claim 13, as discussed above.

Theobald fails to teach the means releasably coupled to the access point for converting the omni directional radio frequency pattern to a directional radio frequency pattern is about $\frac{1}{4}$ wavelength from the means for providing an omni directional radio frequency pattern. However Song teaches that using a quarter wavelength spacing between the antenna and reflector results in the fields radiated by the antenna element adding constructively (in phase), thereby providing increased broadside radiation amplitude (gain) [0034]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have spaced the passive antenna structure and antenna elements of Theobald one quarter wavelength, as taught by Song, in order to have increased the gain.

Claim 20 is similar in scope as claim 16 and is therefore rejected for substantially the same reasons.

(10) Response to Argument

The rejection of claims 1-15 and 17-19 under 35 U.S.C. § 102(e), as being anticipated by *Theobold* (US 7,119,744, hereinafter *Theobold*) and claims 16 and 20 under 35 U.S.C. § 103(a), as being obvious over *Theobold* in view of *Song* (US 2004/0169612, hereinafter *Song*) are maintained.

A. Appellant argues that the Examiner incorrectly rejected claims 1-15 and 17-19 under 35 U.S.C. § 102(e) as being anticipated by *Theobold*.

Regarding Claim 1: Appellant argues that the passive antenna 20 of *Theobold*, “does not cause the individual antennae 12 or 14 to operate as directional antennae. The passive antenna is comprised of absorbing foam 22 and metal reflectors 24. The *Theobold* specification is devoid of disclosure that indicate that positioning of the metal reflectors cause them to serve as ground planes in a manner that result in the antenna operating as directional antenna” (see page 7, lines 3-8 of the Amended Appeal Brief). Examiner notes that the Appellant’s assertion that the passive antenna 20 is comprised of absorbing foam 22 and metal reflectors 24 is incorrect. Col. 3, lines 28-32 of *Theobold* discloses “the present passive antenna structure 20 is preferably composed of a material for providing radio signal isolation, such as absorbing foam 22 or (emphasis added) metal reflectors 24, or a suitable combination thereof, to result in an absorbing/reflecting structure.” Therefore, since the passive antenna structure 20 can comprise only metal reflectors, the case where the passive antenna structure is solely used as a reflector would inherently cause the omni-directional antennas 12&14 of *Theobold* to operate as directional antennas, since the electromagnetic radiation will inherently be reflected by the reflective properties of the passive antenna structure 20. For these reasons, *Theobold* teaches the

Art Unit: 2821

claimed limitation "... such that when the at least one ground plane is coupled to the access point the at least one omni-directional antenna functions as a directional antenna to shape a coverage area of the access point".

Appellant further argues that "The *Theobald* reference specifically teaches a means for selectively varying signal isolation that is adapted to switch between a sectorized antenna configuration and an antenna array configuration. Accordingly, the antenna system starts as an array and is transformed into a sector antenna when the isolation mechanism is in place. However, the use of both an array and sector antenna imply directional antenna patterns." (see page 7, lines 21-26 of the Amended Appeal Brief) Examiner notes that use of both an array and sector antenna do not imply directional antenna patterns. *Theobald* teaches an antenna system used in two states (1) with an isolation structure 20, and 2) without an isolation structure 20. (see figures 1A and 1B, as well as, col. 3, line 50 through col. 4, line 28) In the state which includes the use of isolation structure 20, *Theobald* teaches using monopole or dipole antennas (see col. 3, lines 60-61), which inherently have omni-directional radiation patterns, and using the isolation structure 20 to "result in a 'sectorized' antenna system in which each antenna ... covers a hemispherical area, together providing 360-degree coverage for each non-interfering channel" (see col. 3, line 66 through col. 4, line 3), which implies that each monopole/dipole (omni-directional pattern) now has a hemispherical pattern (directional pattern) when using the isolation structure 20. For these reasons, *Theobald* teaches the claimed limitation "... such that when the at least one ground plane is coupled to the access point the at least one omni-directional antenna functions as a directional antenna to shape a coverage area of the access point".

Regarding claims 2-12: Claims 2-12 are dependent claims which depend from claim 1. Since there are no further deficiencies present in claims 2-12, and for the reasons discussed above, *Theobold* teaches each and every limitation of the claims.

Regarding claims 13 and 17: Claims 13 and 17 are both independent and each essentially contain the limitations of claim 1. Since there are no further deficiencies present in claims 13 and 17, and for the reasons discussed above, *Theobold* teaches each and every limitation of the claims.

Regarding claims 14-15 and 18-19: Claims 14-15 and 18-19 are dependent claims which depend from claims 13 and 17, respectively. Since there are no further deficiencies present in claims 14-15 and 18-19, and for the reasons discussed above, *Theobold* teaches each and every limitation of the claims.

B. Appellant argues that the Examiner incorrectly rejected claims 16 and 20 under 35 U.S.C. § 103(a) as being anticipated by *Theobold* in view of *Song*.

Appellant argues how *Song* does not make up for the shortcomings of *Theobold*, therefore, the relevance of *Song* does not have any deficiencies that need to be remedied at this time. As described above, *Theobold* is believed to teach each and every element of the claimed invention, thus, the instant invention is obvious over *Theobold* in view of *Song*.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Art Unit: 2821

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/R. K./

Examiner, Art Unit 2821

Conferees:

Douglas W. Owens /D.W.O./

/Douglas W Owens/

Supervisory Patent Examiner, Art Unit 2821

Ricky Mack

/Ricky L. Mack/

Supervisory Patent Examiner, Art Unit 2873